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ABSTRACT

A study tried to determine if development can continue through middle age, if education can stimulate adult development, and, if so, what the contributing factors are. The subjects were 60 men and women who had begun doctoral studies between ages 37 and 48, half of whom had just finished and half of whom had just started. Half of the students were from an array of traditionally structured schools, half from a single school (Fielding Institute in Santa Barbara, California) organized along principles of self-directed learning. All subjects completed the Sentence Completion Test of ego development (SCT), a projective measure that has been used for more than 30 years. Subjects also completed comprehensive questionnaires, and 17 were interviewed in depth. The study found that students in the nontraditional school experienced significant ego growth, whereas those in traditional schools manifested ego regression. Pacing (the exposure to a level of cognitive or moral complexity that is just beyond the student's current developmental level) was found to be a significant factor in ego growth. Unconditional acceptance also was found to be an important element. The study concluded that a learning environment can be designed that will foster not only content mastery and skill acquisition but also human development. (32 references.) (KC)

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THE ROLE OF EDUCATION IN STIMULATING HUMAN DEVELOPMENT

Dorothy D. Billington

> Adult learners are precisely those whose intellectual aspirations are least likely to be aroused by the rigid, uncompromising requirements of authoritative, conventionalized institutions of learning. (Lindeman, 1926, p. 28)

Today these words are more pertinent than ever, for we humans resist change. We resist the questioning of our established ways of thinking and doing (Kuhn, 1970). Thus traditional ways of teaching have changed little in this century.

Yet *college students are changing.* Their ranks are aging as more adults return to school each year (National Center for Education Statistics, 1988). The era of completing one's education at age 21 is past; the rapid proliferation of knowledge in our technological world makes continuous lifelong learning a necessity. Without it most adult knowledge and skills would quickly become obsolete. As the demand for adult learning has accelerated, so has the need for research and knowledge on how adults learn best. Few studies have examined this question.

Along with recognition of the necessity for lifelong learning has emerged an awareness that significant learning and human development go hand-in-hand. That development must be the primary goal of education is a major theme of a growing number of psychologists and educators such as Dewey (1963), Rogers (1969), Kohlberg (Kohlberg & Mayer, 1972), Perry (1981), Piaget (1967), Daloz (1986), Kurfiss (1983), and others, who have proposed that education *of the right kind* can stimulate development.

Yet even today we know little about *whether, how,* and *why* adults continue to grow, for until recently developmental psychologists studied only children. The concept of *adult development* is only beginning to emerge. Even now most research has been limited to traditional-aged college students; few studies have seriously examined development beyond that age (Loevinger, Cohn, Redmore, Bonneville, Streich, & Sargent, 1985). Thus this study asked:

1. Can development continue through middle age?
2. Can education stimulate adult development?
3. If so, what are contributing factors?

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BACKGROUND LITERATURE AND THEORY

Adult Development

What do we mean by adult development? As in any field, researchers view this subject from a variety of perspectives, each valuable and necessary. No single theory can adequately explain human development, just as no single photograph can show all sides of an individual. For instance, life phase theorists, such as Levinson (1978) and Gould (1978), view adults in terms of age-linked changes. Others, such as Lowenthal (1975), view life events such as marriage and retirement as more important than age in understanding individual behavior.

Developmental psychologists such as Piaget (1967), Perry (1970), Kohlberg (1969), Loevinger (1976), Gilligan (1982), Kegan (1982), Fowler (1974), and Belenky, Clinchy, Goldberger, and Tarule (1986) address development of the self, or ego: that is, changes in the way we view, interpret, and react to life; in the way we organize our experience to produce meaning. Stage development relates more to our inner logic--the way we think--than to our age. Development is a reorganization which involves all aspects of the person, including cognitive, character, and moral development; introspection; interpersonal relationships; and motivation. With each movement to a more mature developmental stage we learn to view and interpret our experience through a more complex, hence a more realistic, frame of reference. This process of growth could be viewed as a series of paradigm shifts (Kuhn, 1970). Learning and growth occur as individuals strive to achieve a balance between themselves and their environment (Piaget, 1967).

Developing individuals progress from an extrinsic to an intrinsic locus of control; from conceptual oversimplification, impulsivity, and opportunism to conformity and stereotyped views and then on to conceptual complexity, introspection, and responsibility based on self-evaluated standards (Redmore, 1983). They move from pre-conformity to conformity and to post-conformity. People at a particular stage of development perceive and interpret events in terms that are appropriate to that stage. For instance, Archie Bunker would view and react differently to a certain experience than would Mother Teresa.

Most studies to-date have indicated that one's *developmental level is relatively stable in adulthood*; significant adult growth is relatively rare (Loevinger et al., 1985). However, Loevinger (1976) discovered indications that change *can* be stimulated through the influence of an exceptional teacher who can provide the unusual circumstances for adult growth much as does the parent for a child.

Pacing

The process of *pacing* (though called by differing names) is described as a key stimulus to human development by Piaget (in Tanner and Inhelder, 1960), Riegel (1976), Loevinger (1976), Kuhn (1970), Kohlberg (1975), Kohn (1980), Perry (1981), Maslow (1968), Skinner (1971), and others. Pacing refers to our exposure to a level of cognitive or moral complexity which is *just be-*

yond our current developmental level (if too far beyond, lack of understanding and frustration result). A good mother continually introduces her children to more complex ideas; a good teacher stimulates the student's thinking. As we maintain contact with and master a pacer, our level of complexity grows and we are ready for a new, more complex pacer.

Adult Education

Building upon the work of Lindeman (1926), Knowles in 1968 introduced andragogy as a more suitable model than pedagogy for adult education. Pedagogy, our traditional, long-accepted teaching practice, is based upon the assumption that the teacher must direct learning; learners must remain submissive and dependent. Yet *our need and capacity to be self-directing emerges steadily from infancy through adulthood.* The pedagogical model fails to recognize, develop, or exercise that growing need (Knowles, 1984).

The andragogical model assumes that adults have a deep need to be self-directing; that in adulthood there is a wider range of individual differences than in childhood, which requires individualization of teaching and learning strategies; and that individual experience must be recognized, valued, and utilized (Knowles, 1984).

Numerous educators now agree that *youth, too,* learn better when their life situations, experience, needs, interests, self-concepts, and individual differences are taken into account. Many are suggesting that appropriate levels of self-directed learning would benefit students of all ages. Most recognize that not all adults are ready to be self-directed learners, as previous school experience has conditioned them to view the role of learner as passive and dependent. Many must *learn* to be self-directed (Feuer & Geber, 1988). Yet few who have become self-directing would willingly revert to the pedagogical learning model.

Rogers, in his 1969 classic, *Freedom to Learn,* found current methods of teaching adults not only ineffective, but destructive. In particular, graduate education "is often the furthest behind the mainstream of our culture and is the least educational in any true sense" (p. 189). It is demanding, demeaning, and depressing--its major effect being to destroy self-confidence, creativity, and curiosity. Higher education should focus not upon *teaching* but upon the *facilitation of self-directed learning.* The optimal learning environment would offer independent study and tutorials. Faculty, instead of treating students as robots, would guide, consult, and provide feedback to assist them to explore and pursue personal meanings and goals. The climate, instead of stifling creative capacities, would offer freedom, unconditional positive regard, and nourishment. Learning would be *an exciting quest* instead of "an accumulation of facts soon to be out-dated and forgotten" (p. 232). Rogers issued a challenge to educators: If development of the individual is not the goal of education, what is?

Not only graduate programs, but all traditionally-structured educational programs can have a destructive influence on students, stifle intellectual curiosity, and inhibit human development (Kohlberg, 1975; Loevinger, 1976). Kohlberg found that the institutional atmosphere of college or the army can

provide a powerful force for the need to achieve equilibrium with one's environment, and if that environment exemplifies a developmental level below one's own, the individual may regress. Institutions, as well as individuals, appear to manifest a characteristic developmental level.

STUDY DESIGN

It was hypothesized that significant learning would stimulate adult development to the extent that educational experiences were characterized by pacing and an emphasis upon intrinsic locus of control, or self-directed learning.

This study was based upon the concept that the various elements of the self (ego) are interrelated, forming a relatively stable structure (system). Changing any part, such as increasing one's level of cognitive development through exceptional intellectual stimulation, could stimulate overall growth.

Doctoral programs were selected for study on the assumption they could provide exceptional cognitive stimulation. Because the literature revealed increasing speculation that nontraditional self-directed learning programs are more conducive to adult development than traditional programs, this study compared development within the two types of learning environments.

The study combined qualitative and quantitative methods in order to present a more rigorous and comprehensive picture of the phenomenon. For a complete discussion of research methods and results, see Billington, 1988.

Sixty men and women who had begun doctoral studies when between ages 37 and 48 participated. Half had just started; the remaining half had just graduated. Half were from traditionally-structured schools, half from a single school organized along principles of self-directed learning. To control for developmental differences found in differing academic programs, all participants were enrolled in programs in the social sciences. Specific program types were matched as much as possible.

Because not more than a few qualified participants could be found at any single traditionally-structured school, 14 universities were represented. Participants were found by obtaining names from school administrators, faculty members, and students. Random selection was infeasible because of the limited population.

Because of wide program differences in nontraditional schools, one school, the Fielding Institute in Santa Barbara, California, was studied. Designed for mid-career graduate study leading to the doctorate and Master's degree in professional psychology and in human and organization development, Fielding is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. The program, designed for adults seeking to continue their education while they maintain their jobs, is congruent with the philosophies of Rogers (1969) and Knowles (1984). Emphasized are the importance of a challenging yet supportive learning environment; development of the whole person; the facilitation of self-directed learning; a collaborative interactive process between students and faculty; and high academic standards. Faculty is comprised of well-established professionals situated in various locations throughout the

country. Students select a faculty member to serve as a mentor throughout their program. Then, in each knowledge area, they select one faculty member to help create a learning contract, to guide learning, then to assess learning. Learning is accomplished through one-on-one tutorials, independent study, and seminars held at regional sessions. In addition, regional cluster groups of students and faculty members meet regularly for support and collaborative learning.

DATA COLLECTION

All subjects completed the Sentence Completion Test of ego (self) development (SCT), a projective measure which has been carefully constructed, revised, and standardized in form, administration, and scoring procedures over three decades (Loevinger, 1976). The literature reveals substantial evidence of construct validity of the SCT (Kishton, Starrett, & Lucas, 1984) and consistently high reliability values (Hauser, 1976).

Subjects also completed a comprehensive questionnaire; an instrument newly-designed to retrospectively measure individual change using wording from the Personal Orientation Inventory (Shostrom, 1966); and in-depth interviews with 17 representative participants.

FINDINGS

Students in the nontraditional school experienced significant ego growth. Those in traditional schools manifested ego regression. Pacing was found to be a significant factor in ego growth.

Ego Level Differences Between Beginning and Graduating Students

When differences between SCT scores of *all 60* students at both school types were analyzed, using ANOVA, graduates had higher mean ego levels than beginners (Figure 1), but the difference was not statistically significant at the .05 level ($F = 1.32$, $p = .26$).

Effects of School Type

Ego levels changed *in opposite directions* by school type (differences statistically significant at $F = 5.54$, $p = .02$). It is important to note that mean *ego levels of beginning students at both school types were almost identical* (Figure 1). However, in the nontraditional school, *graduates had higher ego levels than beginners* (statistically significant difference at $t = 2.55$, $p = .007$). In the traditional schools, *graduate ego levels were lower than those of beginners* (not statistically significant at the .05 level, $t = .78$, $p = .22$).

Pacing

A statistically significant relationship ($F = 8.02$, $p<.01$) between the amount of pacing experienced and growth was discovered (Figure 2).

DISCUSSION

Contrary to much of the literature on adult development, this study indicated that adults *can* and *do* experience significant personal growth at midlife. A striking finding was that students experienced growth primarily within the nontraditional environment which emphasized self-directed learning, support, mutual trust, and respect. The cross-sectional analysis, the retrospective analysis, the questionnaire, and the in-depth interviews *all yielded congruent results.* It was as though this research snapped multiple pictures of a barely visible phenomenon from various angles, and when developed, all pictures revealed the same clear image.

Comments of participants in the self-directed learning program indicated that challenge, learning, and growth were experienced (quotes that follow are from the questionnaires and interviews):

> I have surpassed what I thought were my limits so many times that I now know that there are no limits.
>
> I could honestly say that I had an "aha" experience in every course that I took.
>
> My whole way of seeing things has changed.
>
> My real self has emerged.
>
> For me it has been a growth within, beyond measure; it goes beyond any past experience.

The finding that significant ego growth occurred only within the setting which emphasized nurturing and support provides us with a rich insight: *Adults, like children, thrive within a nurturing, supportive environment.*

Comments by students in the self-directed doctoral program supported the observation of Kurfiss (1983) that development occurs where the environment is that of a community of scholars:

> It's a true community of learners rather than teachers and students.
>
> With faculty, there's always a feeling of being peers, friends, and colleagues, and of mutual respect--incredible! Their egos don't seem to be involved.

These remarks stand in stark contrast to repeatedly-echoed themes of students in traditionally-structured doctoral programs:

> People here seem to get the wind knocked out of them.
>
> Obstacles are placed in our way. Self-esteem isn't considered. If it survives, it's purely happenstance.
>
> Faculty made snide remarks--put us down in class.
>
> I moved from a position of authority and some esteem in my career to one of no authority and questionable esteem.

Findings suggest that *traditionally-structured authoritarian education may have a destructive influence on students*, supporting the work of Rogers (1969), Loevinger (1976), and Kohlberg (1975).

Does Becoming a Self-Directed Learner Stimulate Adult Development?

These findings suggest an interesting hypothesis: *As there is widespread agreement that a primary progression in adult development is movement from extrinsic to intrinsic locus of control, becoming a self-directed learner may trigger movement toward greater intrinsic locus and hence toward a higher developmental level.* Comments such as the following suggest this could be a valid proposition:

> Finding out I could learn on my own and solve learning problems on my own was empowering.
>
> What I value most is the beginning of a kernel or place inside me where I know I am OK as a person. It is a deep caring within myself. My task is taking care of that. I know I'm not brilliant, but I also know now that I'm good enough.

This hypothesis could be true for students of all ages. Further research is suggested.

On the other hand, being forced to accept an external locus of control in the more traditional learning environments might well result in regression toward acceptance of a more extrinsic locus of control and thus a decline in ego level:

> It was devastating to lose my sense of competency, to return to a powerless position....I had no say regarding my environment.

Of course, there could be numerous alternative explanations for the study findings.

It would be valuable to study further why faculty in the self-directed doctoral program, many of whom are highly respected scholars at traditional universities, feel free to emerge from the facade of professor to interact with students as peers--to learn with, and from, the students. From the

comments of students from both types of schools, we might ask if this is related to the fact that faculty in the self-directed doctoral program are not threatened by competition with peers for tenure and promotions. The Fielding Institute is organized exclusively around graduate training; it provides only secondary employment for most of its faculty, who typically hold positions at other universities, have independent practices as psychologists, or work as organizational consultants.

One 45 year old student in a traditionally-structured program sadly reported that her advisor would not tell her what his present writing project was about as "he, like most in the department, worried that their ideas would be plagiarized." *If faculty members feel threatened, stifled, and unappreciated, they may find it difficult--or impossible--to nourish others. An authoritarian environment may diminish faculty as well as students.* By way of contrast, within an environment which emphasizes unconditional positive regard, mutual respect, and trust, *all* may be free to learn, to grow, and to develop together. It would be valuable to study whether faculty in such an environment experience growth along with their students.

Pacing

The finding that adults who experienced pacing grew more informs us that intellectual stimulation is an important factor in adult development.

Pacing experienced by students occurred not only from studies but also through interpersonal relationships--with faculty members, mentors, and fellow students. The importance of pacing was illustrated by these comments:

> My values are challenged if not changed by exposure to new people, new ideas, new ideologies, new universes--all part of this Ph.D. process.
>
> Learning is a powerful intervention. It doesn't matter what I'm learning. As long as I'm learning something I become learning-ready; I become open.
>
> You know that critiques from your mentor and others are not criticisms, but lights shown on your material from another direction or perspective.
>
> Here I feel free to risk, to be creative. I can look at concepts from every angle. It's not like most traditional schools where only one way of thinking in a field is acceptable.

An interesting finding was that those who reported experiencing intellectual stimulation--*to the point of feeling discomfort*--grew most.

Unconditional acceptance was found to be an important element. It appears that adults, like children, need a sense of safety in order to explore new ways of thinking and being. Teachers who *gently* guide the student to

higher levels of understanding are effective pacers who can foster development.

Participants strongly emphasized the necessity for constructive feedback; careless and destructive feedback, on the other hand, threatened their sense of self and learning:

> Faculty frequently stated I did not know what I was talking about.
>
> They shut us off in class before we finished our thoughts.
>
> I saw [a professor's criticism] as harassment, a nit-picking, minutiae thing. I'm not here to learn minutiae, I'm here to learn broad concepts and knowledge in my area.

White (1973) argued that the experience of being heard, understood, and appreciated contributes to a person's feeling of competence and sense of self--important aspects of adult development.

The importance of pacing alerts us to the need for recognizing each student's individual capacities and needs, for *if we address students only as groups of people in lockstep classes, we will offer pacing to but a few; the rest will miss the intellectual stimulation which seems necessary in order to learn and to grow.*

If, as Kohlberg (1975), Loevinger (1976), and others suggest, individual institutions exemplify a certain developmental level, then we might hypothesize: *Prolonged exposure to individuals or an institution which exemplifies a lower developmental level can serve as a negative pacer and stimulate developmental regression.* The results of this study suggest this could be possible. Further research is needed.

This study revealed that a learning environment *can* be designed which will foster not only content mastery and skill acquisition, but also--perhaps of greatest import--human development. It informed us that self-directed learning and intellectual and moral stimulation can foster growth in adults--if within an environment of acceptance and unconditional positive regard.

Our world needs people who can cope with rapid change, complex social problems, and uncertainty--which means people at the more advanced stages of adult development. Societies, institutions, and organizations can develop only to the level achieved by their members.

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